

WBGT FACT SHEET

Georgia updates Practice Policy for Heat and Humidity

In March 2012 the GHSA approved a new practice policy for Heat and Humidity. The new policy follows modified guidelines of the American College of Sports Medicine in regard to:

- Scheduling of practices at various heat/humidity levels
- Ratio of workout time to time allotted for rest and hydration at various heat/humidity levels
- The heat/humidity level that will result in practice being terminated

WBGT (wet bulb globe temperature)

A device that measures the WBGT will be used to monitor the heat/humidity levels. The WBGT stands for Wet Bulb Globe Temperature and is calculated using a formula that takes into account air temperature, speed of air movement, radiant heat from hot objects, sunshine, and body cooling due to sweat evaporation. The WBGT was first introduced by the U.S. Marine Corps to protect recruits from experiencing heat related injuries.

The GHSA WBGT Index approved for 2012-2013

WBGT READING	ACTIVITY GUIDELINES & REST BREAK GUIDELINES
UNDER 82.0	Normal activities --Provide at least three separate rest breaks each hour of minimum duration of 3 minutes each during workout
82.0 -86.9	Use discretion for intense or prolonged exercise; watch at-risk players carefully; Provide at least three separate rest breaks each hour of a minimum of four minutes duration each.
87.0 – 89.9	Maximum practice time is two hours. For Football: players restricted to helmet, shoulder pads, and shorts during practice. All protective equipment must be removed for conditioning activities. For all sports: Provide at least four separate rest breaks each hour of a minimum of four minutes each
90.0--92.0	Maximum length of practice is one hour, no protective equipment may be worn during practice and there may be no conditioning activities. There must be 20 minutes of rest breaks provided during the hour of practice.
OVER 92	No outdoor workouts; Cancel exercise; delay practices until a cooler WBGT reading occurs

Hand-Held WBGT Meter Kit

Scientificgear LLC offers a WBGT Kit that includes the:

- Hand-held WBGT meter [m#8778](with GHSA WBGT Index sticker)
- Tripod (expandable to 53")
- Quick-Reference laminated 3x7 GHSA WBGT Index w/GHSA guidelines (hangs on tripod for quick reference)
- Carry Bag

We put together a kit to help with every day use at the practice facility (indoor or outdoor). Having the tripod is helpful in deploying the device for continual monitoring of heat and humidity conditions. We also think having a "monitoring

station” with quick-reference cards and clipboards for documenting results will help standardize the monitoring process for coaches, trainers and staff.

WBGT Meter Specifications

Heat Stroke Prevention Meter



8778

What is WBGT?

The Wet Bulb Globe Temp. (WBGT) is a composite temperature used to estimate the effect of temperature, humidity, wind speed and solar radiation on humans. It is used by industrial hygienists, athletes, and the military to determine appropriate exposure levels to high temperatures.

WBGT Formula

Formula:(Reference)

Indoors / Outdoors and no sun

$WBGT = 0.7 \times WB + 0.3 \times TG$

Outdoors and full sun

$WBGT = 0.7 \times WB + 0.2 \times TG + 0.1 \times TA$

WBGT & Physical exercise

WBGT	Flag	Activity Intensity
< 80°F < 26.7°C	White	Normal activity. Caution should be taken.
80-84.9°F 26.7-29.4°C	Green	Discretion is required in planning intense physical activity.
85-87.9°F 29.4-31°C	Yellow	Intense activity for new and unacclimatized persons should be curtailed.
88-89.9°F 31-32.2°C	Red	Intense exercise must be curtailed for those with less than 12 weeks training in hot weather. Be on high alert
> 90°F > 32.2°C	Black	Cancel all outdoor exercise.

Source: Manual of Naval Preventive Medicine (NAVMED P-5010)

Handheld type WBGT meter 8778

- ▲ SIMULTANEOUSLY DISPLAY TEMPERATURE AND HUMIDITY
- ▲ EASY-TO-READ BIG LCD DISPLAY
- ▲ CHECK DANGEROUS HEAT CONDITIONS THROUGH WBGT
- ▲ PROGRAMABLE DANGER ZONE FOR WARNING PURPOSE
- ▲ DESIGN WITH CAPACITANCE TYPE RH SENSOR TO GET ACCURATE AND QUICK READING
- ▲ CLEAR SHEATH TO PROTECT HUMIDITY SENSOR
- ▲ TEMPERATURE UNIT °C/°F SELECTABLE
- ▲ HOLD FUNCTION TO FREEZE CURRENT READING
- ▲ BATTERY LOW INDICATOR
- ▲ SLEEP MODE CAN BE DISABLED
- ▲ TRIPOD RECEPTACLE DESIGN FOR LONG TIME USE
- ▲ AUDIBLE BEEPER FOR DANGER ZONE WARNING
- ▲ BUILT-IN RS232 INTERFACE FOR PC DOWNLOAD
- ▲ HUMIDITY SELF-CALIBRATION VIA SALT BOTTLES KIT

Model	8778
Temp. range	0~50°C
Temp. resolution	0.1°C/°F
Temp. accuracy	+/-0.6°C
Humidity. range	0%~100%RH
Humidity resolution	0.1%RH
Humidity accuracy	+/-3%RH (at 25°C, 10~90%RH, others +/-5%RH)
Globe Temp.(inside black ball)	0~80°C
Globe Temp. Acc.	Indoor: +/-1 °C(at 15~40°C), others 1.5 °C outdoor: +/-1.5 °C(at 15~40°C), others 2 °C
WBGT temp. range	0~50°C
Black ball size(mm)	Dia. 75, height:75
Stabilization time	15 ~25 minutes typical
RH% Self calibration	YES
Battery life	>250hour
LCD size (mm)	28(H)x33(W)
Operation temp.	0~50°C
Operation RH%	Humidity < 80%
Storage temp.	-20~50°C
Storage RH%	Humidity < 90%
Dimension(mm)	278.2x75x75(H)
Weight	~140g
Battery	AAA x2pcs
Standard Package	Meter/Battery/Manual/Paper box
Optional	Software Kit /RH calibration kit

scientific*gear

Scientific Gear
2799C Merrilee Dr. Fairfax, VA 22031
Toll Free (800) 998-6429
Fax (703) 621-5870

Optional



CAL. SALT BOTTLE
P/N: VZHR33AZ (33%)
P/N: VZHR75AZ (75%)
FOR 8758/8778 CAL. PURPOSE.



RS232 cable & software
P/N: VZRS232BN
USB cable & software
P/N: VZUSBAZM

(If you would like to order a kit you can use this sheet to fax in your order)

FAX-IN ORDER SHEET

FAX ORDER TO 703-621-5870

Yes, I would like to order the WBGT Kit for \$210.00 that includes:

- WBGT Meter [#8778] (with GHSA WBGT Index Sticker)
- Tripod
- Laminated 3x7 WBGT Index w/ GHSA guidelines (hangs on tripod for quick reference)
- Carry Bag

ORDER FORM

Date: _____

Name: _____

Email: _____

Phone: _____

School or District name: _____

Quantity of KITS you would like to order: _____

Total amount for your order: \$_____

Bill to address (include PO# if available): _____

Ship to
Address: _____

Comments: _____

*(*Note: To arrange for special order quantities please contact us at 800-998-6429)*